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ABSTRACT

This study examined cultural differences in the amount and type of maternal scaffolding of children's learning and their effects of scaffolding on children's independent performance across two distinct activities: goal-directed versus free play. Twenty Iranian-American and 20 Anglo-American mothers with their preschool children participated in this study. Analyses of maternal scaffolding revealed that Iranian mothers were more directive in their teaching strategies than Anglo-American mothers were in the goal-directed activity. These differences disappeared in free play. Maternal sensitivity was examined in relation to task demand and children's level of competence. No cultural differences were observed between the two groups of mothers. However, both groups altered their teaching strategies to adjust to the task demands as well as to the children's level of competence. An examination of children's independent performance revealed no cultural differences. Both groups of children performed equally well. The results of this study highlight the importance of culture, nature of task, and child's effect in mothers' construction and application of teaching strategies. (Author/MOK)

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Maternal Scaffolding in the Child's Zone of Proximal Development: Cultural Perspectives

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Abstract

This study examined cultural differences in the amount and type of maternal scaffolding of children's learning and their effects on children's independent performance across two distinct activities: goal-directed vs. free play. Twenty Iranian and twenty Anglo-American mothers with their preschool children participated in this study. Analyses of maternal scaffolding revealed that Iranian mothers were more directive in their teaching strategies than Anglo-American mothers in the goal-directed activity. These differences however disappeared in the free play. Furthermore, maternal sensitivity was examined in relation to task demand and children's level of competence. No cultural differences were observed between the two groups of mothers: however, both groups altered their teaching strategies to adjust to the task demand as well as to the child's level of competence. An examination of children's independent performance revealed no cultural differences: children performed equally well. The results of this study highlight the importance of culture, nature of task and child's effect in mothers' construction and application of teaching strategies.

Introduction

In the past few years a great deal of attention has been directed to the social context of children's development of cognitive skills. Much of this attention stems from Vygotsky's socio-cultural theory, especially his notion of the zone of proximal development (zpd) which represents the difference between what a child can do with adult guidance and what he or she is able to do independently (Levin, 1993). According to Vygotsky, children's future independent performance is largely dependent upon the types of guidance provided by the adult in the zpd. Adults access the zone and mediate the process of learning by providing guidance that reflects cultural values stemming from the organization of the society in which competence is to be achieved.

Over the years efforts have been made to identify and understand the nature of adult guidance, particularly parental teaching practices that contribute to the development of the child's cognitive ability. Using Vygotsky's perspective, Wood, Bruner, and Ross (1976) introduced the concept of scaffolding to describe the strategies adults use to guide children in solving cognitive problems. However, a large number of studies examining patterns of maternal scaffolding both within- and between-cultures have used middle class White mother-child patterns as the standard by which the interaction of other group is measured. Such an approach has led to a tendency among researchers to separate maternal scaffolding into either directive (characteristic of lower SES) or non-directive (characteristic of middle SES) parents. While non-directive patterns of scaffolding are believed to be conducive to independent thinking and academic achievement, directive patterns of scaffolding are argued to be counterproductive to independent thinking and academic achievement. Many investigators have interpreted maternal directiveness as intrusive and by implication insensitive to children's competence. However, the fact remains that research has not provided a clear distinction between maternal directiveness and maternal intrusiveness.

The purpose of this study is to make both theoretical and practical aspects of maternal scaffolding more open to issues of cultural diversity. To be precise, this study is designed to examine the specifics of scaffolding strategies of Iranian and Anglo-American mothers during mother-child interaction and their effect on the child's ability to problem solve. Iranian families were selected for comparison for several reasons. First, culturally, Iranians are very distinct from Anglo-Americans. While Anglo-American culture values and promotes individuality and independence, Iranian culture values and promotes conformity, loyalty, devotion, responsibility and dependability. Second, given their cultural values, Iranian students have been found to perform well academically within the American education system (Bozorgmehr & Sabagh, 1988; Hoffman, 1988). Third, Iranian mothers have been shown to be very directive in their teaching style (Kermani, 1993). And fourth, although Iranians are the second largest resident minority in California, @ a quarter of a million, they are among the least studied groups in the U.S.

Recent literature supports the theory that maternal directiveness as a form of controlling strategy does not promote independent problem solving. However, Hoffman (1988) shows conclusively that Iranian children are succeeding in American schools. How can this paradox be explained? In cultures where independent performance is not valued, mothers may very well fine-tune to their children's level of competence and provide support, yet not transfer the task responsibility of the task to the child, thus being perceived as controlling in their teaching behavior. This study suggests other ways of interpreting maternal directiveness. One possible explanation of Iranian children's success is that Iranian maternal teaching styles, though controlling, are also responsive to the child's level of competence. In addition, Iranian maternal teaching styles may be closer to the American reality of school instruction than researchers generally suppose. For instance there is more controlling or directive teacher instruction in American schools than there is non-controlling or non-directive, even though educators and researchers emphasize the importance of the latter as a pedagogical goal.

Expanding on the scaffolding model, this study attempts to: 1) utilize measures of maternal behavior that distinguish directiveness from other types of maternal supportiveness; 2) systematically analyze maternal sensitivity to different tasks and different levels of task difficulty; and 3) link particular components of maternal scaffolding to culturally shaped values and attitudes. Given that each culture may emphasize certain achievement skills in their children, it is reasonable to assume that varying scaffolding strategies would be utilized by Iranian and Anglo-American mothers to monitor their children's behavior in the problem-solving task. Most importantly, it is hypothesized that sensitivity and directiveness are not necessarily incompatible qualities and may be partially orthogonal (Crawley & Spiker, 1983). In addition, this study investigates the ways in which maternal scaffolding influences children's independent performance.

Method

Design

This study was designed to examine the main and interactive effects of culture on mother-child style of interaction and to assess maternal sensitivity to the child's level of competence and task demands. In addition, children's independent performance was examined as a function of differences observed in maternal teaching strategies. A schematic model of the overall design is provided below.

Subject	Pre-Test DAS	PAAT	Manipulation	**TASK 1** M-C Interaction Pattern Blocks.	**TASK 2** M-C Interaction 3-D-Blocks	Post-Test	**TASK 3** M-C Interaction Play-doh	Maternal Interview
Iran n=20			Control Group n=10 Experimental Group n=10			Control Group n=10		
U.S. n=20			Control Group n=10 Experimental Group n=10			Control Group n=10		

Subjects

Subjects were 20 Iranian and 20 Anglo-American middle-class mother-child dyads. With one exception, all families were intact. Children's age ranged from 55 months to 76 months (M=65). Samples were matched on family income, parental education, and child's age and gender. Each group had six girls and 14 boys. Iranian mothers were all born in Iran and had been resident in the U.S. an average of 10 years and 5 months. All 20 of the Iranian mothers had completed high school

in Iran. The average number of years of formal education completed for both Iranian and Anglo-American mothers was 16.3 years.

Materials

1. **Goal-directed activity**. Two sets of tasks, Pattern Blocks and Three Dimensional colored Block design cards were used as stimuli for this activity. Blocks and cubes of different shapes, colors, and sizes were used with the cards in each task. For the Pattern Blocks task mothers were asked to play with their children using the three Pattern Blocks cards. For each card chosen the child was required to select as many blocks as she/he wished from a larger number of blocks and to fill in the patterns. For the Three Dimensional Blocks task mothers were specifically asked to teach their children to construct three dimensional designs from the five model cards provided.

2. **Free play.** Play-doh and some Play-doh props were used as the stimulus for this task. For this activity mothers and their children were asked to play with Play-doh in any manner they enjoyed or were accustomed to.

Maternal childrearing attitudes and expectations were also examined through the administration of the Parent As A Teacher Inventory attitude scale developed by Strom (1984) and a semi-structured interview. However, this paper only reports the findings for the two activity settings (task 1, 2, and 3). A schematic model of the overall design is provided below.

Procedures

The study was conducted at the dyads' homes. All mother-child pairs were visited in their home in one occasion each. Each session lasted approximately two hours. All 40 children were pre-tested on their ability to understand a basic elementary pattern construction and pattern design by administering the Pattern Construction, a subset of the Differential Ability Scales (DAS). To assess maternal sensitivity, children were randomly assigned to either a control group or an experimental group. Children who were assigned to the control group were presented with three easy Three Dimensional Block design practice cards to play. No specific teaching instruction was provided. In contrast, children who were assigned to the experimental group were presented with the 5 Three-Dimensional Design Cards selected for mother-child play (Task 2) and were given some important instruction on the features of the designs (e.g., how to reconstruct angles, depth, or spaces between two or more cubes). This interaction continued until the child demonstrated she/he has learned the features of the task taught by the investigator. No time limits were set for completing any of the tasks, in order to facilitate a more relaxed atmosphere for interaction. However, mothers were told that at least 15 minutes of interaction in each task was needed for analysis.

Measures

Mother-child interactional behavior was transcribed and coded directly from the videotapes for each task (Pattern Blocks, Three Dimensional Blocks, and Play-doh). Both mothers' and children's behavior is reported in terms of actual frequency. Categories for mothers' and children's behavior were coded on the basis of mutual engagement in the activity. These categories were adapted from a synthesis of previous analyses of maternal teaching behavior (Kermani, 1993). Maternal behaviors were conceptually organized following a sequence of what appears to provide the least level of control of child's behavior (explanation) to the one with the most level of control (physical control). These nine categories in sequence from low to high level of control were: explanation, promoting independence, inquiry, verbal hint, verbal prompt, instructional directives, modeling, correction, and physical control. The three categories for coding children's behavior were: asking for help, refusal of help, and independent performance. Iranian dyads used Farsi as well as English in their interaction. When Farsi was used, it was translated first and then coded. The definition and examples of the behavior categories are presented in table 1.

Table 1

Definitions and examples of maternal teaching categories

Category	Definition (Examples)
	Maternal Codes
Explanation (EX)	Mother provides Explanation to make something clear. This could be about the child's behavior or the activity itself (e.g., "If you put two squares together you can make a rectangle to cover this space.", "This square won't fit here because the shape looks slanted here", "They are at an angle, aren't they?").
Promotion of Independence (PI)	Mother encourages the child to perform on her/his own without giving direct instruction (e.g., "Why don't you go ahead and see if it fits", "Whichever way you think is okay").
Inquiry (IQ)	Mother asks the child to produce some kind of information (e.g., "What is this shape called?", "What do you have to do next?", "What are you going to put on your pizza?").
Verbal Hint (VH)	Mother provides implicit suggestions for the child to do the next response (e.g., "Look on top of the boat", " It looks like a square shape").
Verbal Prompt (VP)	Mother provides specific statements that prompt the child to do the next response (e.g., "Okay, next", "Go ahead and Continue").
Instructional Directive (ID)	Mother instructs the child how to perform the appropriate response (e.g., "Why don't you use the blue block", "Turn the block to make the angle", "Do you want to do it in a different Color?", "Do you want to flip it and see what happens?", "Put that one right there").
Modeling (M)	Mother verbally or non-verbally demonstrates for the child how to build something [e.g., "You roll it like this to make it flat.", "To make an angle, you turn the block like this", "Let's turn this, like this, here is the pointy corner").
Correction (CO)	Mother corrects the child response (e.g., "That's not right, try another block", "That was wrong").
Physical Control (PC)	Mother intervenes and perform the task on her own (e.g., places a block on the pattern).
	Child's Codes
Child Asking for Help/ Confirmation (CAH)	Child verbally and non-verbally seeks help or confirmation from the mother (e.g., "Is it this how it goes?", "How do I make it turn?").
Child's Refusal of Help (CRH)	Child physically or verbally refuses help from the mother (e.g., "Don't tell me, I know how to do it myself" or pushes mom's hand's away from placing pieces of blocks on the pattern).
Child's Independent Performance (CIP)	Child performs the task independently without help from his/her mother.
Time Spent on Task (TST)	Time both mother and child took to complete the task during the Three-Dimensional Blocks.

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Results

Maternal scaffolding in relation to culture, activity type (goal-directed vs. free play), and the child's level of competence was analyzed through a series of Multivariate Analysis of Variance (MANOVA). To determine cultural differences in maternal scaffolding a 2 (culture) by 2 (activity--Pattern Blocks vs. Play-doh) repeated measures MANOVA was conducted on the basis of the previously described conceptual continuum. Table 2 presents mean frequencies, standard deviations, multivariate and univariate F values with significance at the .05 level or greater. The MANOVA revealed a significant main effect for country (Wilks's Lambda = .438, $\underline{F}$ (1, 9) = 4.27, $p < .001$) and activity (Wilks's Lambda = .225, $\underline{F}$ (1, 9) = 11.46, $p < .001$) supporting the hypothesis that Anglo-American and Iranian mothers differed significantly in their scaffolding patterns and that both groups of mothers modified their scaffolding patterns as a function of the activity. The univariate analyses indicate that the scaffolding strategies utilized by the Iranian mothers tend to veer towards the lower extreme of the continuum, demonstrating more explicit and controlling categories, whereas the maternal scaffolding strategies utilized by the Anglo-American mothers tend to veer towards the other extreme of the continuum, demonstrating more explanatory and less controlling categories.

Table 2

Mean frequencies (and standard deviations) of maternal teaching behavior in Pattern Blocks and Play-doh.

	Country				Multivariate F ratio		
	Iran (n=20)		U.S. (n=20)		Country	Task	C x T
	Pattern Blocks (n=20)	Play-doh (n=20)	Pattern Blocks (n=20)	Play-doh (n=20)	4.27***	11.46***	--------
Variables	M (SD)	M (SD)	M (SD)	M (SD)	Univariate F ration		
Explanation (EX)	3.85 (2.60)	4.40 (2.62)	4.25 (2.60)	5.75 (4.02)	--------	-------	-------
Promotion of Independence (PI)	2.85 (3.07)	1.20 (1.20)	1.50 (1.43)	0.30 (0.47)	8.13**	16.53***	--------
Inquiry (IQ)	5.85 (4.57)	8.70 (5.19)	8.90 (5.81)	11.10 (6.26)	--------	8.55**	-------
Verbal Hint (VH)	1.30 (1.84)	0.30 (0.92)	2.05 (1.99)	0.15 (0.36)	--------	25.71***	--------
Verbal Prompt (VP)	4.00 (4.57)	0.45 (0.99)	1.40 (2.04)	0.00 (0.00)	9.52**	31.14***	-------
Instructional Directive (ID)	11.50 (7.44)	7.40 (5.67)	5.85 (4.70)	4.35 (2.87)	11.71**	8.10**	--------
Modeling (M)	1.45 (1.23)	3.55 (3.44)	0.20 (0.41)	1.35 (1.27)	14.34**	20.52***	-------
Correction (CO)	5.05 (4.49)	0.75 (1.21)	1.00 (1.08)	0.25 (0.55)	19.30***	39.35***	12.82**
Physical Control (PC)	5.25 (4.49)	0.45 (0.83)	3.60 (5.85)	0.15 (0.67)	--------	36.34***	-------

Note -- = not significant. *$\underline{P}$< .05. **$\underline{P}$ <.01. ***$\underline{P}$ < .001. C x T = Country x Task

Iranian and Anglo-American children were compared on two dependent variables: request for help and refusal of help from their mothers across the two activities. MANOVA with repeated measures yielded a significant main effect for country (Wilks's Lambda = .565, $\underline{F}$ (1, 2) = 14.23, p < .001), and activity (Wilks's Lambda = .506, $\underline{F}$ (1, 2) = 18.4, p < .001), suggesting that Iranian and Anglo-American children were significantly different in their solicitation or refusal of help from their mothers and that both groups of children altered their behavior markedly as a result of activity function. Table 3 presents mean frequencies, standard deviations, multivariate and univariate F values with significance at the .05 level or greater.

Table 3

Mean frequencies (and standard deviations) of children's behavior in Pattern Blocks and Play-doh.

	Country				Multivariate F ratio		
	Iran (n=20)		U.S. (n=20)		Country	Task	C x T
	Pattern Blocks	Play-doh	Pattern Blocks	Play-doh	14.23***	18.04***	--------
Variables	M (SD)	M (SD)	M (SD)	M (SD)	Univariate F ratio		
Child Asking for Help (CAH)	4.70 (3.01)	1.75 (1.80)	2.00 (2.18)	0.55 (0.83)	16.32***	32.52***	-------
Child's Refusal of Help (CRH)	2.50 (3.12)	1.20 (1.73)	0.55 (0.82)	0.30 (0.92)	12.83**	4.15*	-------

Note ----- = not significant. *P< .05. **P<.01. ***P < .001.
C x T = Country x Task

Maternal scaffolding strategies were also examined for sensitivity to the child's level of competence in the Three Dimensional Blocks task. To measure maternal sensitivity to the child's level of competence, the 20 children from each country were randomly assigned to either control (n=10) or experimental condition (n=10). While children in the experimental condition were pre-instructed on some basic points on how to reconstruct the same three dimensional cards to be used as stimuli for this activity, the children from the control condition were exposed to only three easy practice cards. MANOVA revealed a significant main effect for condition (Wilks's Lambda = .345, $\underline{F}$ (1, 9) = 5.91 , p < .001) indicating that both Iranian and Anglo-American mothers changed their scaffolding strategies as a function of the child's competence. No country main effect or interaction effect was revealed, suggesting that Iranian and Anglo-American mothers did not differ in their use of scaffolding strategies in the Three Dimensional Blocks task. Table 4 presents mean frequencies, standard deviations, multivariate and univariate F values with significance at the .05 level or greater.

Contrasts made between the experimental and control group within each culture revealed significant differences for both Anglo-American (Wilks's Lambda = .583, $\underline{F}$ (1, 9) = 2.22, p = .05) and Iranian (Wilks's Lambda = .413, $\underline{F}$ (1,9) = 4.41, p < .001) dyads. Univariate analyses for both Iranian and Anglo-American mothers showed that both groups of mothers adjusted their amount of scaffolding accordingly.

Table 4

Mean frequencies (and standard deviations) of maternal teaching behavior in Three Dimensional Blocks task.

	Country				Multivariate F ratio		
	Iran (n=20)		U.S. (n=20)		Country	Condition	C x C
	Control (n=10)	Experi-mental (n=10)	Control (n=10)	Experi-mental (n=10)	--------	5.91***	-------
	Iran Co	Iran Ex.	U.S. Co	U.S. Ex.		Univariate F ratio	
Variables	M (SD)	M (SD)	M (SD)	M (SD)		Iran (Co vs. Ex)	U.S. (Co vs. Ex)
Explanation (EX)	5.10 (4.99)	3.30 (2.79)	8.00 (3.86)	4.30 (2.67)	4.06*	-------	4.30*
Promotion of Independence (PI)	2.60 (3.47)	0.70 (1.06)	1.20 (1.31)	0.30 (0.48)	--------	-------	--------
Inquiry (IQ)	22.40 (15.62)	7.60 (5.10)	17.50 (8.95)	11.20 (9.95)	--------	7.91**	-------
Verbal Hint (VH)	3.70 (4.69)	1.00 (0.82)	3.90 (3.28)	1.40 (1.50)	-------	4.39*	4.66*
Verbal Prompt (VP)	2.90 (2.99)	1.80 (1.62)	1.80 (1.75)	0.90 (0.99)	--------	--------	-------
Instructional Directive (ID)	18.70 (12.69)	4.80 (3.49)	13.20 (8.57)	3.60 (2.06)	--------	20.18***	12.51**
Modeling (M)	0.50 (0.97)	1.60 (2.46)	1.80 (1.47)	0.70 (0.82)	--------	--------	-------
Correction (CO)	7.60 (3.47)	2.20 (1.13)	4.50 (3.44)	1.90 (1.79)	4.62*	16.67***	5.15*
Physical Control (PC)	5.10 (6.99)	1.10 (1.85)	3.00 (6.25)	0.30 (0.67)	--------	4.97*	-------

Note ----- = not significant. *P< .05. **P<.01. ***P < .001.
C x C = Country x Condition Co = Control Ex = Experimental

Similarly children's requests for help and refusal of help plus the time spent in completing the Three Dimensional Blocks task, were examined statistically using a MANOVA. Table 5 presents mean frequencies, standard deviations, multivariate and univariate F values with significance at the .05 level or greater. As is shown in table 5, MANOVA yielded a significant main effect for country (Wilks's Lambda = .792, F (1, 3) = 2.96, p <.05) and condition (Wilks's Lambda = .755, F (1, 3) =3.66, p <.05). No interaction effect was observed. The univariate analyses of variance for country showed that Iranian children refused help from their mothers more often than their Anglo-American counterparts. However, when compared across the two conditions, both Iranian and Anlgo-American children sought help from their mothers less often in the experimental group than in the control group and spent significantly less time in completing the task in the experimental condition than in the control condition.

Table 5

Mean frequencies (and standard deviations) of children's behavior in Three Dimensional Blocks task.

	Country				Multivariate F ratio		
	Iran (n=20)		U.S. (n=20)		Country	Condition	C x C
	Control (n=10)	Experi-mental (n=10)	Control (n=10)	Experi-mental (n=10)	2.96*	3.66*	------
					Univariate F ratio		
Variables	M (SD)	M (SD)	M (SD)	M (SD)		Iran (Co vs. Ex)	U.S. (Co vs. Ex)
Child Asking for Help (CAH)	3.80 (5.29)	1.20 (1.47)	3.30 (3.59)	0.80 (0.79)	-------	------	------
Child Refusing Help (CRH)	2.30 (2.58)	2.40 (2.63)	0.70 (1.25)	0.60 (0.69)	7.37**	-------	------
Time Spent on Task (TST)	11.20 (4.21)	8.20 (1.87)	10.80 (1.87)	8.10 (1.96)	---- --	6.28*	5.09*

Note ----- = not significant. *P< .05. **P <.01. ***P < .001.
C x C = Country x Condition Co = Control Ex = Experimental

As presented in table 5, MANOVA yielded a significant main effect for country (Wilks's Lambda = .792, F (1, 3) = 2.96, p < .05), and condition (Wilks's Lambda = .755, F (1, 3) = 3.66, p < .05). No interaction effect was observed. The univariate analyses of variance for country showed that Iranian children refused help from their mothers more frequently than their Anglo-American counterparts. However, the univariate analyses of variance for condition showed that both Iranian and Anglo-American children sought help from their mothers less frequently and spent less time in completing the task in the experimental group than the children in the control group.

Children's independent performance was also examined in the Three Dimensional Blocks task among the control groups. To assess children's independent performance, the children assigned to the control group were asked to reconstruct three novel Three Dimensional designs independently and their performance was scored based on the number of correct responses in reconstructing these designs. A two-tailed t-test was performed on Iranian and Anglo-American children's composite scores to assess cultural differences in their independent performance. No significant differences were revealed, suggesting that both Iranian and Anglo-American children performed similarly and adequately well in their independent problem solving.

Discussion

Consistent with theories emphasizing the role of culture in patterns of mother-child interaction, significant differences were observed in scaffolding strategies of Iranian and Anglo-American mothers. When interacting with their children in the goal-directed context, Iranian mothers utilized a more explicit and direct form of scaffolding, reflective of those categories at the lower extreme of the continuum, whereas Anglo-American mothers utilized more explanatory and non-direct scaffolding strategies, reflective of those categories at the other extreme of the continuum.

These findings suggest that both groups of mothers brought with them a set of culturally formed scripts not only in terms of goals for the activity but also in terms of processes and roles chosen to implement these goals. As the results revealed, Iranian and Anglo-American mothers managed the task interaction differently. When engaged in the goal-directed activity Iranian

mothers appeared to be more directive in their scaffolding strategies. In general, Iranian mothers provided more structured assistance as compared to their Anglo-American counterparts.

As the results indicate, both groups of mothers altered their scaffolding behavior notably as a function of the task and interestingly, became more similar as a result of task difficulty/easiness. The lack of cultural differences in the Play-doh and Three Dimensional Blocks task may be due to the fact that the activity demand in each context led both Iranian and Anglo-American mothers to provide support that was more similar in type than different despite the cultural differences prevalent in their teaching scripts.

Based on Vygotsky's theory, children's learning proceeds most effectively when tutoring occurs within the child's zone of proximal development. Parents respond to their children's scaffolding needs within the child's zone of proximal development according to their culturally specific scripts. However, an argument can be made that when the task becomes too easy or too difficult to be scaffolded by adults based on their culturally determined teaching scripts within the child's zone of proximal development, then the adult responds to the task demand by increasing or diminishing their support in different ways, ways which may not be culturally specific. The inference we can make, based on the results of the study discussed above, is that these non-culturally-specific ways of scaffolding at the extreme lower or upper end of the zone of proximal development are similar rather than different across cultures. The main way in which they become similar appears to be that the Anglo-American mothers have to rely more on directives (as the Iranian mothers regularly do) when the region of sensitivity to instruction changes and falls outside of the norm. In many unfamiliar, demanding or non-standard tasks or learning/teaching situations, the non-directive scaffolding is simply not explicit or focused enough to ensure the child's understanding.

In addition, it was found that mothers' preference of one approach over another had little effect on children's independent performance. These findings contradict previous research which held that maternal directiveness is non-conducive to children's independent performance. Therefore, perhaps we should re-evaluate parental directive teaching styles to include an appreciation of their effectiveness and appropriateness at the boundaries of the ZPD. At the same time, more efforts could be made to differentiate these styles from parental intrusiveness and control. In the past, those categories have been too easily conflated or mistakenly assumed to be a single dimension of parent-child interaction. We hope this study has demonstrated that parental directive teaching style is in no way detrimental per se to effective parental scaffolding, especially when combined skillfully with maternal sensitivity. It is sensitivity, not non-directiveness, that is the key function to the child's learning, irrespective of parental "cooperative scripts" (cf. Parpal & Maccoby, 1985).

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